

1.1 Inequalities

Reading math

$$\Rightarrow x < 3 \quad x \text{ is less than } 3$$

$$x \leq 2 \quad x \text{ is less than or equal to } 2$$

"And" statements:

$$\Rightarrow -2 \leq x < 5$$

x is greater than or equal to -2
 AND
 x is less than 5

From your text book define:

$$\Rightarrow \text{Integers: } \{ \dots -2, -1, 0, 1, 2, \dots \}$$

$$\Rightarrow \text{Real Numbers: } \text{The set of all decimals- negative, positive, terminating and non terminating and zero}$$

Reading math:

$$\Rightarrow \{ x \mid -2 < x \leq 7, x \in \mathbb{R} \}$$

\Rightarrow The set of all x such that x is greater than negative two and less than or equal to 7 and x is an element of the Reals

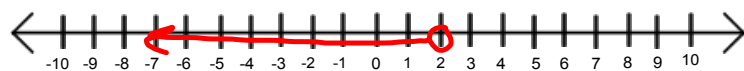
Inequalities can be expressed graphically (# line)
or with set notation

Graph



Set Notation

$$\{x / x \geq 1, x \in \mathbb{R}\}$$



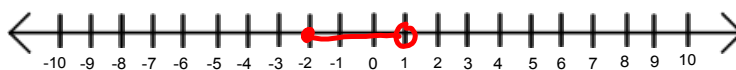
$$\{x / x < 2, x \in \mathbb{R}\}$$



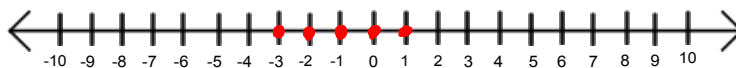
$$\{x / x > 1, x \in \mathbb{I}\}$$

And Statements:

$$\{x / -2 \leq x < 1, x \in \mathbb{R}\}$$



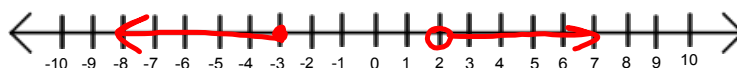
$$\{x / -3 \leq x \leq 1, x \in \mathbb{I}\}$$



👉 small list of #'s so could be written $\{-3, -2, -1, 0, 1\}$

Or Statements

$$\{x / x \leq -3 \text{ or } x > 2, x \in \mathbb{R}\}$$



Biggest Mistakes

WRONG

$$< x >$$

Both big sides facing x

WRONG

$$> x <$$

Both small sides facing x

Should write as :

$$\text{smallest \#} < x < \text{largest \#}$$

When you only have one value, x should be on the left

$$\text{i.e. } x > 8$$

or

$$x < -5$$

HMWK

Finish last days Homework Handouts

Inequalities Handouts:

What Happened...

3M- More Practice

